

IN THE CLAIMS

Please substitute the following amended claims 4, 11, and 22-23 for their corresponding originally-filed claims. A copy of these claims showing the amendments is attached as Appendix C.

a2  
4. (Amended) A method for making a deep trench in a silicon layer, comprising:

providing a silicon layer;

providing a patterned mask over the silicon layer;

etching the silicon layer with a uniform plasma gas comprising a chlorine-containing gas, a passivating gas, a selectivity gas, and a diluent gas; and

removing the patterned mask.

a3  
11. (Amended) A method for making a plurality of deep trenches in silicon layer, comprising:

providing a silicon layer;

providing a mask over the silicon layer;

etching the silicon layer with a gas mixture comprising a chlorine-containing gas to make a plurality of trenches; and

removing the patterned mask;

the plurality of trenches having a depth uniformity of less than about 2 %.

a4  
22. (Amended) A method for making a semiconductor device containing a deep trench in a silicon layer, comprising:

providing a silicon layer;

providing a patterned mask over the silicon layer;

etching the silicon layer with a uniform plasma gas comprising a chlorine-containing gas,  
a passivating gas, a selectivity gas, and a diluent gas; and

removing the patterned mask.

23. (Amended) A method for making a semiconductor device containing a plurality of  
deep trenches in a silicon layer, comprising:

providing a silicon layer;

providing a mask over the silicon layer;

etching the silicon layer with a gas mixture comprising a chlorine-containing gas to make  
a plurality of trenches; and

removing the patterned mask;

the plurality of trenches having a depth uniformity of less than about 2 %.

Please add the following claims:

--52. The method of claim 12, wherein the depth uniformity is less than about 0.1%.

53. A method for making a plurality of trenches in a silicon layer, comprising:

providing a silicon layer;

providing a patterned mask over the silicon layer;

etching the silicon layer with a uniform plasma gas to make a plurality of trenches with a depth greater than about 1 micron and a depth uniformity of less than about 2%; and

removing the patterned mask.

54. The method of claim 53, wherein the depth ranges from about 1.25 to about 20 microns.

55. The method of claim 53, wherein the depth uniformity is less than about 0.5%.

56. The method of claim 53, wherein the variance in trench depth is less than about 500 angstroms.

57. The method of claim 53, wherein the plurality of trenches have a sidewall angle uniformity of less than about 0.5%.--